United States Patent

Boulanger

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[54] **PUSHBUTTON KEYBOARD SWITCH ASSEMBLY WITH IMPROVED OVER CENTER DIAPHRAGM CONTACT**

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[52] **U.S. Cl.**.....**200/5 R,** 200/159 B

[51] **Int. Cl.**.....**H01h 13/26**

[58] **Field of Search** ...200/5 R, 5 A, 46, 86 R, 159 B; 340/166 R

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[57] **ABSTRACT**

A selectively energizable keyboard system is disclosed including a plurality of selectively actuatable pushbutton members having exposed surfaces adapted to be symbolized in accordance with electronic functions generated by actuation of the pushbutton members, and having opposed surfaces adapted to transmit force in response to actuation. A plurality of conductive elements are supported in registration with the opposed surfaces of the pushbutton members, each having a dished surface of curvature when in an unactuated condition and adapted to be deflected into an over-center position in response to application of force by a pushbutton member. A conductive member having a plurality of contact areas in electrical contact with the conductive elements is arranged adjacent the set of conductive elements. In addition, a plurality of conductive paths are arranged at a surface of a support member facing the conductive member. Each of the conductive paths is adapted to be electrically connected to the conductive member through one of the conductive elements, when the conductive element is deflected into its over-center position.

32 Claims, 7 Drawing Figures